



Publishing a  
CAP Alert News Feed

The title of this a presentation is “Publishing a CAP Alert News Feed”.



In this diagram, think of the publisher in the center as a newsroom.

Information flows into the newsroom about various kinds of hazard threats or events.

Flowing out of the newsroom, we have short “news items” and each news item is in the CAP format.

The set of CAP news items is a “news feed” (a term carried over from “news wire services”). So, a source of CAP alerts is like a collection of news articles. To expose those articles to potential users, we just publish the “news feed”.

Potential users would be able to subscribe independently to CAP news feeds as desired.




## Learning Objectives

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*On completion of this session, you should be able to:*

1. Define Really Simple Syndication (RSS) and describe how news items are included in an RSS channel.
2. Explain how to implement an RSS news feed for CAP alerts and to validate that it operates as intended.
3. Describe how a user of CAP alerts could subscribe to an RSS news feed.
4. List some organizations that have implemented CAP and can be contacted for advice on publishing CAP feeds.

Here are the Learning Objectives for this session.



## Presentation Outline

- 106.1 Introducing Really Simple Syndication (RSS)
- 106.2 CAP Alerts as News Items in an RSS News Feed
- 106.3 Validating and Publishing a CAP Alert News Feed
- 106.4 Examples of CAP Alert News Feeds


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Here is an outline of the major topics in this presentation.

The first topic is: Introducing Really Simple Syndication (RSS)



## RSS Defined



- Really Simple Syndication (RSS 2.0): an XML document with references of frequently updated works such as news items
- For the entire feed and separately for each item, RSS document has text and date/time published
- RSS reader software fetches updates from feeds, which are commonly flagged with the RSS icon
- Publish/Subscribe mode: the publisher makes ad hoc updates, subscribers periodically check in


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RSS is a standardized XML document format for publishing frequently updated works such as news items and blog ("Web log") entries. For the entire feed and separately for each item, the RSS document provides descriptive text and the date/time it was published.

The standardized RSS document is designed for automated processing as well as readability by human users. RSS reader software, whether dedicated or included in a Web browser or smart phone, can fetch updates automatically. Reader software can also support the discovery of news feeds, which are commonly flagged with the RSS icon shown here.

RSS is used in a "publish/subscribe" mode where the publisher makes ad hoc updates to the published information and subscribers periodically check for updates. The publisher does not need to track subscribers and subscribers can choose their own schedule for checking in. This mode of interaction works well for conditions where connectivity may be unreliable, because a subscriber can fetch all updates since the last successful visit.



Example RSS for CAP Alerts

```

<?xml version="1.0" encoding="UTF-8"?>
<rss version="2.0">
  <channel>
    <title>Alerts Posted by ACMAD</title>
    <link>http://www.acmad.org/alerts/rss.xml</link>
    <description>Alerts posted by ACMAD (African Centre of Meteorological
    Applications for Development)</description>
    <language>en-us</language>
    <copyright>public domain</copyright>
    <pubDate>Fri, 14 Oct 2011 15:13:22 +0000</pubDate>
    <docs>http://blogs.law.harvard.edu/tech/rss</docs>
  <item>
    <title>Geomagnetic Storm Alert</title>
    <link>http://www.acmad.org/alerts/20111014150503.xml</link>
    <description>There is likely to be a major geomagnetic storm and possible
    auroral activity over the next few days. Space Weather sources at
    NOAA/NASA indicate that major solar flares and a coronal mass ejection
    (CME) were observed at 9:30 a.m. Eastern Time on June 6.</description>
    <author>echristian@usgs.gov</author>
    <category>Met</category>
    <guid>http://www.acmad.org/alerts/20111014150503.xml</guid>
    <pubDate>2011-10-14T15:05:03-00:00</pubDate>
  </item>
</channel>
</rss>

```

Here is an Example news feed for CAP Alerts, using RSS.

There is a single “channel” defined in the RSS news feed. In CAP, we associate the channel with one set of alerts from a particular alerting authority.

Each RSS news “item” is another element within the news “channel”. That corresponds to a particular CAP alert issued by the alerting authority.




## Contrasting RSS with ATOM

- Atom became an RSS alternative because the RSS 2.0 specification was frozen to ensure stability
- [Wikipedia](#) *“Despite the emergence of Atom..use of the older and better-known RSS formats has continued...For example CNN and the New York Times offer their web feeds only in RSS 2.0 format.”*
- Using ATOM rather than RSS for a CAP news feed will not greatly affect usability
- [personal opinion] I have higher confidence that RSS 2.0 implementations are correct and I see no deficiency in RSS 2.0 as used with CAP

You may also hear about the news feed format called “Atom”.

Whether you choose to implement ATOM rather than RSS is not likely to greatly affect the usability of your CAP news feed.



## The Channel in an RSS Feed

<http://cyber.law.harvard.edu/rss/rss.html>

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- Top level element is “rss” with mandatory version attribute: `<rss version=“2.0”>`
- There is a single sub-element: `<channel>`
- Required channel sub-elements:  
`<title> <link> <description>`
- Optional channel sub-elements:  
`<language> <copyright> <pubDate>`  
`<lastBuildDate> <docs> <image>`

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In the RSS XML format, the top level element is “rss” and it includes the mandatory version attribute: `<rss version=“2.0”>`

There can be only one channel in RSS, so “channel” is the single sub-element of “rss”. Again, in the context of CAP, an RSS channel should refer to a source of CAP alerts.

There are three required sub-elements about the channel itself:  
`<title> <link> <description>`

We can also use some optional sub-elements to further describe the channel: `<language> <copyright> <pubDate> <lastBuildDate> <docs>` and `<image>`





## Items in an RSS Feed

<http://cyber.law.harvard.edu/rss/rss.html>

- The channel may contain any number of <item> sub-elements
- Each <item> must have at least one of <title> or <description> subelements
- Other <item> sub-elements:  
<link> <author> <category>  
<guid><pubDate>

---


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As I noted, each CAP alert is regarded in RSS as a "news item". so that one RSS item corresponds to one CAP alert.

The RSS specification allows the channel to contain any number of <item> sub-elements.

Each <item> must have at least one of <title> or <description> subelements.

That is the only required sub-element but there are five other sub-elements that can be used to describe the CAP alert:  
<link> <author> <category> <guid><pubDate>



## Coding of Items Per Channel


- In RSS, do not use HTML coding within the *Channel* or *Item*
- Always use "absolute" URLs (do not use "relative" URLs)

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In RSS, do not use HTML coding within the *Channel* or *Item*

Also, if you include a URL you must always use "absolute" URLs (do not use "relative" URLs).

 **Presentation Outline**


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The next topic is:  
CAP Alerts as News Items in an RSS News Feed



## One CAP Alert as One RSS Item

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<code>&lt;item&gt;</code>		
<code>&lt;title&gt;</code>	<code>cap:headline</code>	<code>&lt;/title&gt;</code>
<code>&lt;link&gt;</code>	<code>URL of CAP file</code>	<code>&lt;/link&gt;</code>
<code>&lt;description&gt;</code>	<code>cap:description</code>	<code>&lt;/description&gt;</code>
<code>&lt;author&gt;</code>	<code>cap:sender</code>	<code>&lt;/author&gt;</code>
<code>&lt;category&gt;</code>	<code>cap:category</code>	<code>&lt;/category&gt;</code>
<code>&lt;guid&gt;</code>	<code>cap:identifier</code>	<code>&lt;/guid&gt;</code>
<code>&lt;pubDate&gt;</code>	<code>cap:sent</code>	<code>&lt;/pubDate&gt;</code>
<code>&lt;/item&gt;</code>		

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Here is how to represent a CAP alert as an item in a RSS news feed.

For the RSS item/title, we can insert the value of the cap:headline element.

For the RSS item/link, use the URL of the CAP file.

For the RSS item/description, use cap:description


For item/author, use cap:sender

For item/category, use cap:category

For the item/guid, use cap:identifier

And, for the item/pubDate, use cap:sent.

Example RSS for CAP Alerts




```


<?xml version="1.0" encoding="UTF-8"?>
<rss version="2.0">
<channel>
  <title>Alerts Posted by ACMAD</title>
  <link>http://www.acmad.org/alerts/rss.xml</link>
  <description>Alerts posted by ACMAD (African Centre of Meteorological
  Applications for Development)</description>
  <language>en-us</language>
  <copyright>public domain</copyright>
  <pubDate>Fri, 14 Oct 2011 15:13:22 +0000</pubDate>
  <docs>http://blogs.law.harvard.edu/tech/rss</docs>
<item>
  <title>Geomagnetic Storm Alert</title>
  <link>http://www.acmad.org/alerts/20111014150503.xml</link>
  <description>There is likely to be a major geomagnetic storm and possible
  auroral activity over the next few days. Space Weather sources at
  NOAA/NASA indicate that major solar flares and a coronal mass ejection
  (CME) were observed at 9:30 a.m. Eastern Time on June 6.</description>
  <author>echristian@usgs.gov</author>
  <category>Met</category>
  <guid>http://www.acmad.org/alerts/20111014150503.xml</guid>
  <pubDate>2011-10-14T15:05:03-00:00</pubDate>
</item>
</channel>
</rss>

```

Here is an example RSS for CAP Alerts

 **Presentation Outline**

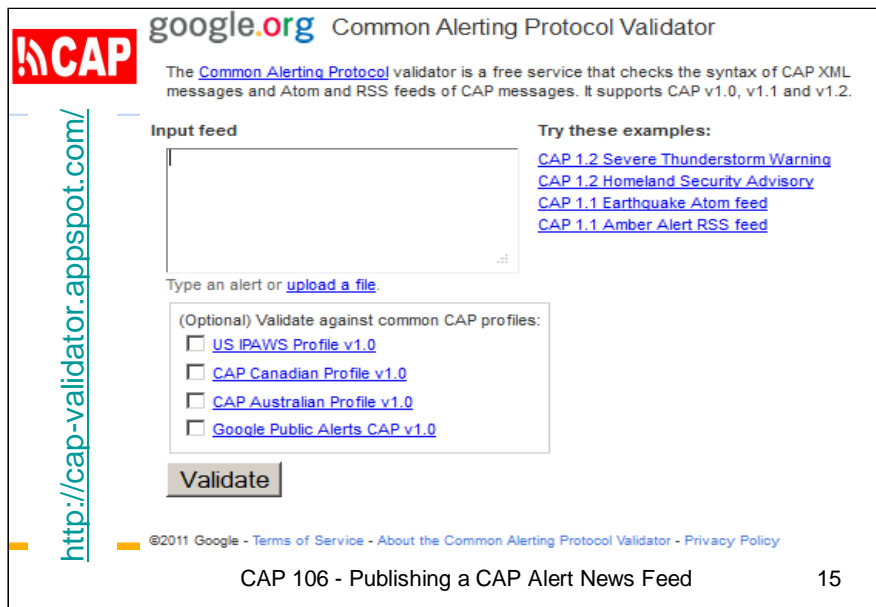
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The next topic is:  
Validating and Publishing a CAP Alert News Feed



It is very important to assure that your CAP news feed is valid. You can use the online tool from Google to validate the CAP news feed.

The validation process also tries to validate each of the CAP alerts.



## Publishing a CAP RSS Feed

- Include the news feed icon: 
- Include the CAP logo: 
- Include an “auto discovery link” in the main page of your host Web site:  

```
<link rel="alternate" type="application/rss+xml"
      title="—feed title here—"
      href="—feed URL here—" />
```

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On any Web page that contains a CAP alert news feed you should include the news feed icon and the CAP logo as shown here.

You should also include an “auto discovery link” in the main page of your host Web site.



## Reliability, Security and Authentication

- Depending on the alerting (e.g., life-critical, politically sensitive), alerting systems might be targeted by attempts to disrupt service or to falsify information
- Every alerting authority should have policy, procedures, and technology in place to assure appropriate reliability and security of its systems that support public and private alerting functions
- Certain positions typically require special access (e.g., to create or to issue actual alerts) and persons in those positions need to be authenticated

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Similar considerations about system reliability, security, and authentication apply to the system hosting a CAP alert feed as to the system that hosts the CAP alerts themselves.

Every system involved in alerting should have policy, procedures, and technology in place to assure appropriate reliability and security.

It may be that the alert feed itself will require access constraints, typically restricting access to certain levels within the emergency management community. In that case, the mechanisms discussed in the last session can be applied to the alert feed function in the same manner they were applied to the alert source.



## Presentation Outline

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106.1 Introducing Really Simple Syndication (RSS)

106.2 CAP Alerts as News Items in an RSS News Feed

106.3 Validating and Publishing a CAP Alert News Feed

 106.4 Examples of CAP Alert News Feeds

For the last topic in this presentation we will look at some Examples of CAP Alert News Feeds

OID: 2.49.0.0.840.0 WMO Member: United States of America ISO 3166: US USA 840

Issuing Organization:

Hazard Categories :  Geo  Met  Safety  Security  Rescue  Fire  Health  Env  Transport  Infra  CBRNE  Other

Authorization Basis:  
 The National Weather Service Organic Act of 1890, currently codified as amended in section 313 of title 15 of the federal statutory code (called the United States Code) authorizes the National

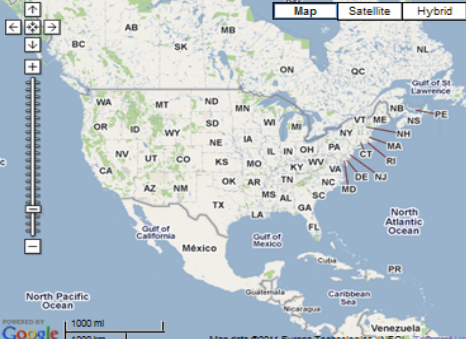
CAP Feed URL:

Forecasts URL:

Editor:

Set the map view of the typical area for this alerting authority.

Map  Satellite  Hybrid



**Hazard Categories**  
**Geo:** Geophysical (earthquakes, volcanoes, etc., includes landslide)  
**Met:** Meteorological (weather, storms, etc. includes flood)  
**Safety:** General emergency and public safety  
**Security:** Law enforcement, military, homeland and local/private security  
**Rescue:** Rescue and recovery  
**Fire:** Fire suppression and rescue  
**Health:** Medical and public health  
**Env:** Pollution and other environmental  
**Transport:** Public and private transportation  
**Infra:** Utility, telecommunication, other non-transport infrastructure  
**CBRNE:** Chemical, Biological, Radiological, Nuclear or High-Yield Explosive threat or attack  
**Other:** Other events

Recall this screen shot of the US National Weather Service entry in the international Register of Alerting Authorities.

Notice that the CAP feed URL is provided here.


 U.S. National Weather Service (NWS)

<http://alerts.weather.gov/>

- NWS watches, warnings, advisories, and other similar products are in CAP version 1.1
- NWS provides a feed for each U.S. state and for each County or NWS Forecast Zone
- News feeds are updated every two minutes

The U.S. National Weather Service provides its CAP alerts as a set of news feeds, described at [alerts.weather.gov](http://alerts.weather.gov)

NWS provides a feed for each U.S. state and for each County or NWS Forecast Zone, updated about every two minutes.

 **Other United States Examples**


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- USGS Landslides  
[http://www.usgs.gov/hazard\\_alert/alerts/landslides.rss](http://www.usgs.gov/hazard_alert/alerts/landslides.rss)
- USGS Volcanoes  
<http://volcanoes.usgs.gov/rss/vhpcaprss.xml>
- USGS Earthquakes (U.S. Virgin Islands)  
<http://rss.vialert.gov/RSS/CapIndices/ ALLVIRSSCAPIndex.xml>
- NY State-Wide RSS-Based CAP Index  
<http://rss.nyalert.gov/RSS/CapIndices/ NewYorkStateRSSCAPIndex.xml>

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The U.S. Geological Survey (USGS) provides CAP alert news feeds for landslides and volcanoes, as shown here.

 Canada (use CAP Canadian Profile)

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- [National Alert Aggregation and Dissemination System \(Pelmorex\)](#)
- [Ottawa, Ontario](#)
- [Province of Alberta](#)

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Here are some CAP news feed examples in Canada

- National Alert Aggregation and Dissemination System
- the city of Ottawa in Ontario, Canada
- the province of Alberta, Canada



## Review of Key Points

- Introducing Really Simple Syndication (RSS)
- CAP Alerts as News Items in an RSS News Feed
- Validating and Publishing a CAP Alert News Feed
- Examples of CAP Alert Feeds

These are the Key Points of this presentation:

- Introducing Really Simple Syndication (RSS)
- Showing News Items in an RSS Channel
- CAP Alerts as News Items in an RSS News Feed
- Finding and Subscribing to CAP Alert News Feeds
- Examples of CAP Alert Feeds




## What have you learned?

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1. Define Really Simple Syndication (RSS) and describe how news items are included in an RSS channel.
2. Explain how to implement an RSS news feed for CAP alerts and to validate that it operates as intended.
3. Describe how a user of CAP alerts could subscribe to an RSS news feed.
4. List some organizations that have implemented CAP and can be contacted for advice on publishing CAP feeds.

Now that you have completed this session, you should be able to perform the objective tasks.





## Reference Links

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- [CAP References \(PrepareCenter.Org\)](#)
- [CAP Implementations by Country](#)
- [CAP Video \(10 minutes, made by IFRC\)](#)
- CAP Training Courses - contact me  
Eliot Christian [eliot.j.christian@gmail.com](mailto:eliot.j.christian@gmail.com)

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Here are some key reference links concerning CAP.